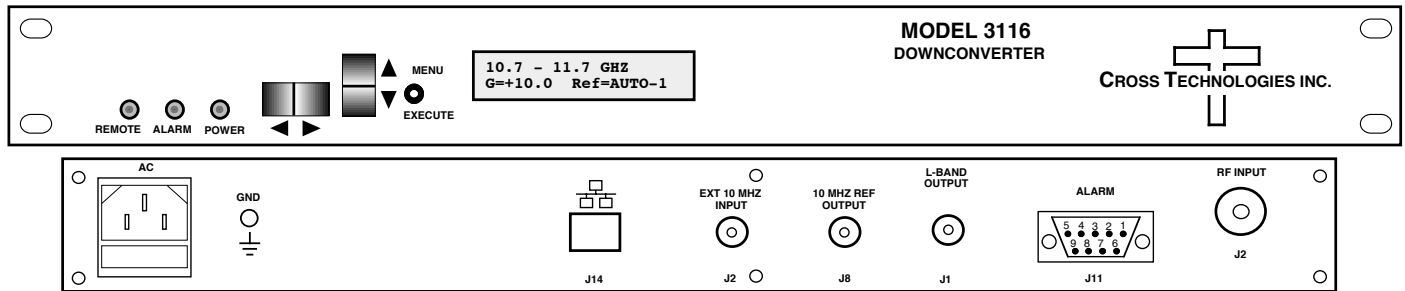


3116-107 Block Downconverter, 10.7 - 11.7 GHz to 0.95 - 1.95 GHz

The 3116-107 Downconverter converts 10.7 - 11.7 GHz to 0.95 - 1.95 GHz with low phase noise and flat frequency response. Frequency translation is via a 9.75 GHz local oscillator. The gain is $+35 \pm 2$ dB maximum and is adjustable in 0.5 ± 0.5 dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS 232C, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are SMA female for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is **+1 to +8 dBm**. The 3116 is powered by a 100-240 \pm 10% VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss 50Ω/14 dB
 Frequency 10.7 to 11.7 GHz
 Noise Figure, Max. 12 dB max gain
 Input Level range -55 to -35 dBm
 Input 1 dB compression -25 dBm

Output Characteristics (L-Band)

Impedance/Return Loss 50Ω /14 dB
 Frequency 0.95 to 1.95 GHz
 Output Level Range -20 to 0 dBm
 Output 1 dB compression +10 dBm at max. gain

Channel Characteristics

Gain, max; adjustment +35 dB \pm 2 dB, max. gain @ Fc; 30 dB adjustment in 0.5 ± 0.5 dB Steps
 Image Rejection > 60 dB, min
 Spurious, In Band SIGNAL RELATED < -55 dBC in band, 0 dBm out; 2XFO < -45dBC; SIGNAL INDEPENDENT, < -60 dBm
 Spurious, Out of Band < -50 dBm (**0.5-0.95 GHz and 1.95-2.5 GHz Out**)
 Intermodulation < -55 dBC for two carriers each at -10 dBm out
 Frequency Response \pm 1.5 dB, 950 -1950 MHz out; \pm 0.5 dB, 40 MHz BW
 Frequency Sense Non-inverting

LO Characteristics

LO Frequency 9.75 GHz
 Frequency Accuracy \pm 0.01 ppm max over temp internal reference; ext. ref. input
 10 MHz In/Out Level 3 dBm, \pm 3 dB, w/ Auto-detect

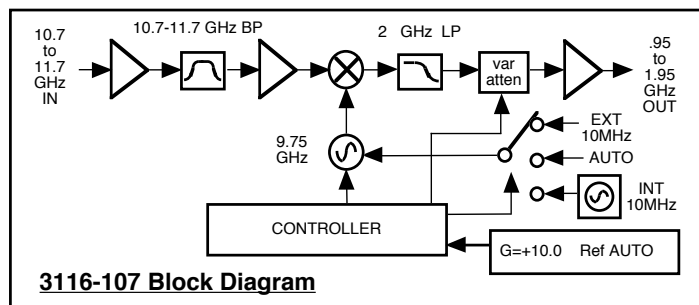
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-80	-85	-100	-110

Controls, Indicators

Gain; Ext Ref Selection Direct readout LCD; pushbutton switches or remote
 Power; Alarm; Remote Green LED; Red LED; Yellow LED
 Remote RS232C/RS485/422, 9600 baud (Ethernet Optional)

Other

RF/L-band Connector SMA (female), 50Ω / BNC (female), 50Ω
 10 MHz Connectors BNC (female), **75Ω, works with 50 or 75 ohms**
 Alarm/Remote Conn. DB9 - NO or NC contact closure on Alarm
 Size 19 inch standard chassis 1.75" high X 14.0" deep
 Power 100-240 \pm 10% VAC, 47 - 63 Hz, **30 watts max.**



3116-107 Block Diagram

Options - Contact Cross for others

Remote M&C Ethernet Options

W8 - Ethernet w/web browser Interface
 W18 - Ethernet w/SNMP (and MIB) Interface
 W28 - Ethernet w/direct TCP/IP Interface

Gain/Power Options

W50 - Gain (38 dB \pm 3 dB) & P1dB = +18 dB

Extended Temperature Option

W31 - 0°C to 50°C

Connector Options

N - 50Ω N-type (RF), 75Ω BNC (L-BAND)
 NF - 50Ω N-type (RF), 75Ω F-type (L-BAND)
 NN - 50Ω N-type (RF), 50Ω N-type (L-BAND)
 S7 - 50Ω SMA (RF), 75Ω BNC (L-BAND)
 SF - 50Ω SMA (RF), 75Ω F-type (L-BAND)
 SN - 50Ω SMA (RF), 50Ω N-type (L-BAND)
 SS - 50Ω SMA (RF), 50Ω SMA (L-BAND)

*10°C to 40°C; Specifications subject to change without notice

